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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,003	09/09/2003	Douglas S. Forrer	PTH-20404/08	2277

25006 7590 04/26/2005

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TROY, MI 48007-7021

EXAMINER

SINGH, SUNIL

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,003

Applicant(s)

FORRER, DOUGLAS S.

Examiner

Sunil Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13,15-20 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,15-20 and 22-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.



DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-13, 15-20, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (US 3332327) in view of Coderre et al. (US 6325515).

Heenan discloses a reflective pavement marker (see Fig. 1) comprising a shell (12) having at least one side wall having a reflective portion, wherein said shell forms an interior cavity, said reflective portion having an inner surface partially defining said cavity; a reflective coating (70) covering said inner surface of said reflective portion; and a filler material (14) disposed within the interior cavity of said shell. The shell includes a top wall, side wall and reflective end wall having the reflective portion formed therein integrally. The reflective portion includes a plurality of integrally formed cube-shaped members arranged in a grid pattern (see col. 1 line 20). The reflective coating is a metal material (see col. 5 line 65).

Heenan discloses the invention substantially as claimed. However, Heenan lacks a bonding coating covering at least said reflective coating, wherein the bonding coating is a bonding primer such as an acrylic latex primer or a water based primer. Coderre et al. teaches a reflective marker having a bonding coating (28) covering at

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least the reflective coating (32) which covers cube corner reflective means (32), wherein the bonding coating is a bonding primer (see col. 3 line 56+). It would have been considered obvious to one of ordinary skill in the art to modify Heenan to include the bonding coating as taught by Coderre et al. so as to cover the reflective coating in order to protect the reflective coating from corrosion thus lengthening the life of the reflective marker.

With regards to claims 20,22-25, the recited method steps are considered to be obvious in view of the combination as described above.

With regards to the limitation "having a tensile strength greater than 10,000 psi and a flexural modulus greater than 450,000 psi", it should be noted that Heenan clearly teaches that his shell is formed from methyl methacrylate (see col. 4 line 40+). The specifications of "Acrylic (Polymethyl-Methacrylate)" specifically teaches that polymethyl-methacrylate have tensile strengths between 8000-11000 psi and flexural modulus between 350,000-500,000 psi. Therefore, Heenan meets the tensile strength and flexural modulus called for in the claims. As further evidence that poly(methyl methacrylate) typical tensile and flexural modulus values are 10,000 psi and 500,000 psi respectively, applicant is directed to "Canadian Building Digest" (page 5 of 7). Since tensile strength and flexural modulus are important properties considered when making reflective pavement markers, one skilled in the art would use tensile strengths as high as 11,000 psi and flexural modulus as high as 500,000 as evidenced by the teachings of Heenan, "Acrylic (Polymethyl-Methacrylate)" and "Canadian Building Digest" (page 5 of 7) thus meeting the claimed limitation of greater than 10,000 psi and 450,000 psi.

Optical transmittance greater than 85% is also taught as being a fundamental property of polymethyl methacrylate.

Response to Arguments

3. Applicant's arguments filed 2/2/05 have been fully considered but they are not persuasive. Applicant argues that none of the references suggest using a polymer having a tensile strength greater than 10,000 psi and a flexural modulus greater than 450,000 psi. The examiner respectfully disagrees. It should be noted that Heenan clearly teaches that his shell is formed from methyl methacrylate (see col. 4 line 40+). The specifications of "Acrylic (Polymethyl-Methacrylate)" specifically teaches that polymethyl-methacrylate have tensile strengths between 8000-11000 psi and flexural modulus between 350,000-500,000 psi. As further evidence that poly(methyl methacrylate) **typical** tensile and flexural modulus values are 10,000 psi and 500,000 psi respectively, applicant is directed to "Canadian Building Digest" (page 5 of 7). Since tensile strength and flexural modulus are important properties considered when making reflective pavement markers, one skilled in the art would use tensile strengths as high as 11,000 psi and flexural modulus as high as 500,000 as evidenced by the teachings of Heenan, "Acrylic (Polymethyl-Methacrylate)" and "Canadian Building Digest" (page 5 of 7) thus meeting the claimed limitation of greater than 10,000 psi and 450,000 psi. Optical transmittance greater than 85% is also taught as being a fundamental property of polymethyl methacrylate. Declaration filed by applicant is noted; however, it does not overcome the fact that Heenan uses methyl methacrylate and "Acrylic (Polymethyl-Methacrylate)" article teaches that polymethyl-methacrylate properties have tensile

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strengths between 8000-11000 psi and flexural modulus between 350,000-500,000 psi and since tensile strength and flexural modulus are important properties considered when making reflective pavement markers, one skilled in the art would use tensile strengths as high as 11,000 psi and flexural modulus as high as 500,000 thus meeting the claimed limitation of greater than 10,000 psi and 450,000 psi.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

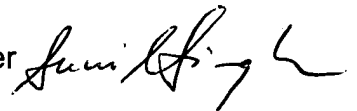
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (571) 272-7051. The examiner can normally be reached on Monday through Friday 10:30 AM - 7:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (571) 272-7049. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sunil Singh
Primary Examiner
Art Unit 3673



SS
SS
4/19/05

SUNIL SINGH
PRIMARY PATENT EXAMINER